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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,737	12/05/2003	Marina E. Kondakova	87241AEK	1342

7590

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EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/729,737

Applicant(s)

KONDAKOVA ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 5,17 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-16,18-22 and 24-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1-30-04;5-11-05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This Office action is responsive to applicant's response to the election of species requirement received January 30, 2006. Applicant elected for the phosphorescent guest material "tris(2-phenyl-pyridinato-N,C<sup>2'</sup>)iridium(III)", as the host material carbazole material "4,4'-N,N'-dicarbazole-biphenyl", and as the efficiency enhancing material "4,4',4''-Tris[3-methylphenyl]phenylamino]triphenylamine". Claims 5, 17, and 23 are withdrawn as being directed to non-elected subject matter. Claims 1-4, 6-16, 18-22 and 24-30 are currently under consideration.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-16, 18-22 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seo et al. (US 2002/0086180 A1). Seo sets forth organic luminescent elements comprising a bipolar-natured mixed layer comprising a hole transporting material and an electron transporting material (see abstract). The mixed region further comprises luminescent material (see par. 154 and 187). Seo sets forth an example comprising a bipolar mixed layer comprising 4,4'-N,N'-dicarbazole-biphenyl (referred to as "CBP") and hole transporting compound NPD (see par. 251, page 16). Light emitting material Ir(ppy)<sub>3</sub> is doped into the bipolar-natured mixed layer (see par. 252). With regard to claims 11-14, the amount of Ir(ppy)<sub>3</sub> is 6% wt. Although Seo does not set forth an example using 4,4',4''-Tris [3methylphenyl]

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pheylamino] triphenylamine (referred to as MTDATA) in place of NPD, Seo teaches MTDATA is an equivalent hole transporting material (see par. 183). Accordingly, it would have been obvious to one of ordinary skill in the art to have formed a device with a bipolar-natured mixed layer comprising CBP, Ir(ppy)<sub>3</sub> and MTDATA, because Seo clearly teaches MTDATA and NPD are similar hole transporting materials. Because Seo discloses the same materials as applicant, the properties of claim 1 are deemed to be inherently met by the reference. With regard to claim 23, it would have been obvious to one of ordinary skill in the art to have further incorporated an additional host material other than CBP, because absent evidence otherwise, “[i]t is *prima facie* obvious to combine two compositions taught by the prior art as useful for the same purpose, in order to form a third composition which is to be used for the very same purpose” (see *In re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980); *In re Susi*, 169 USPQ 423, 426 (CCPA 1971); *In re Crockett*, 126 USPQ 186, 188 (CCPA 1960)). With regard to claims 28-30, Seo discloses displays incorporating the devices (see Figures).

4. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seo et al. (US 2002/0086180 A1) in view of Tokito et al. (US 2003/0091862). Seo et al. is relied upon as set forth above. Seo et al. teaches incorporating a green phosphorescent material in the light emitting layer (the iridium compound), but fails to teach specifically a red or blue phosphorescent material may be also be used. Tokito et al. teaches in analogous art the use of blue or red phosphorescent material as equally suitable for a light emitting device as a green phosphorescent material (see par. 117). It would have been obvious for one of ordinary skill in the art at the time of the invention to have made a device comprising red emitting and blue emitting phosphorescent compounds in addition to the green emitting iridium compound,

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because Tokito et al. teaches red emitting and blue emitting phosphorescent compounds that are equally suitable as a phosphorescent material in a light emitting layer. It would have been obvious to have incorporated additional luminescent materials, because they are useful for the same purpose (i.e., light emission). Seo et al. also fails to teach a color filter is used in the device. Tokito et al. teaches in analogous art it is well known to incorporate a filter into a light emitting device in order to achieve a desired color (i.e., white light) (see par. 70). It would have been obvious to one of ordinary skill in the art to have further included a color filter in the Seo et al. device, because Tokito et al. teach a filter is a commonly known means of achieving desired light emission color.

### ***Conclusion***


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Dawn Garrett  
Primary Examiner  
Art Unit 1774

D.G.  
April 11, 2006